This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) An ellipsometer for evaluating a sample comprising:

a. a first probe beam directed to reflect off the sample in a first direction;

b. a second probe beam directed to reflect off the sample in a second direction substantially perpendicular to the first direction;

c. a detector system for determining the change in polarization state of both the first and second probe beams and generating output signals in response thereto; and

d. a processor for evaluating the sample based on the output signals.

2. (original) An ellipsometer as recited in claim 1, wherein said first and second probe beams are generated by a single light source.

3. (original) An ellipsometer as recited in claim 1, wherein said detector system includes a single photodetector system for monitoring both the first and second probe beams.

4. (original) An ellipsometer as recited in claim 1, wherein said detector system includes two physically separate photodetector systems for monitoring the first and second probe beams respectively.

5. (original) An ellipsometer for evaluating a sample comprising:

a. a first probe beam;

b. a second probe beam;

c. a detector system for determining the change in polarization state of both the first and second probe beams and generating output signals in response thereto;

d. a processor for evaluating the sample based on the output signals;

e. a first set of optical elements for directing the first probe beam to reflect off the sample in a first direction and for directing the reflected first probe beam to the detector system; and

f. a second set of optical elements for directing the second probe beam to reflect off the sample in a second direction, with said second direction being substantially perpendicular to the first direction and for directing the reflected second probe beam to the detector system.

6. (original) An ellipsometer as recited in claim 5, wherein said first and second probe beams are generated by a single light source.

7. (original) An ellipsometer as recited in claim 5, wherein said detector system includes a single photodetector system for monitoring both the first and second probe beams.

8. (original) An ellipsometer as recited in claim 5, wherein said detector system includes two physically separate photodetector systems for monitoring the first and second probe beams respectively.

9. (original) An ellipsometer for evaluating a sample comprising:

a. a broad band light source for generating a polychromatic probe beam;

b. a first optical element for selectively directing the probe beam along one of two paths to the sample, with the first path being configured to direct the beam to reflect off the sample in a first direction and the second path begin configured to direct the beam to reflect off the sample in a second direction substantially perpendicular to the first direction;

c. means for monitoring the change in polarization state of the reflected probe beam, said means including a detector having a plurality of photodetecting elements generating a plurality of output signals corresponding to a plurality of wavelengths;

d. a second optical element for selectively directing the probe beam from the first and second paths along a common path to the detector; and

e. a processor for evaluating the sample based on the output signals.

10. (original) An ellipsometer as recited in claim 9, wherein said means for monitoring the change in polarization state of the beam includes a polarizer and a retarder.

11. (original) An ellipsometer as recited in claim 10, wherein said retarder is rotatable.

12. (original) An ellipsometer as recited in claim 9, wherein a separate polarizer and retarder are provided along each path, prior to the second optical element.

13. (original) An ellipsometer as recited in claim 9, further including a stage means for moving the sample with respect to the probe beam, said stage means permitting both rotation and linear motion of the sample.

14. (original) An ellipsometer as recited in claim 9, wherein the sample is a circular wafer and the linear motion of the stage means is limited to about a radius of the wafer.

15. (original) An ellipsometric apparatus for evaluating a sample, said apparatus having a common light source for providing a single initial light beam and having a final detector, said apparatus comprising:

a first directing means for selectively directing said initial beam along first and second paths;

a first lens unit in the first path to provide a focused first beam directed to the sample in a first impinging direction;

a second lens unit in the second path to provide a focused second beam directed to the sample in a second impinging direction substantially perpendicular to the first impinging direction;

a first waveplate assembly receiving the first beam reflected from the sample;

a second waveplate assembly for alternately receiving the second beam reflected from the sample;

a second directing means for selectively directing the first and second beams towards the final detector of said system; and

a means for rotating and axially translating the wafer with respect to the first and second probe beams, with the amount of translation along an axis being less than twice the diameter of the wafer.

16. (original) The apparatus of claim 15, wherein said wafer translation means includes a rotating stage.

17. (original) The apparatus of claim 15, wherein said wafer translation means includes a first linear stage having a first travel range along an x-axis and a second linear stage having a second travel range along a y-axis.

18. (original) The apparatus of claim 15 wherein each said first and second directing means includes a selectively positionable mirror.

Claims 19-20. (cancelled)

21. (original) An ellipsometer for evaluating a sample comprising:

a light source for generating a polychromatic probe beam;

a detector for monitoring the probe beam after reflection from the sample and generating output signals as a function of wavelength;

a processor for evaluating the sample based on the output signals;

a first fixed optical path between the light source and the detector, said first path being configured so that the probe beam is directed to the sample along a first impinging direction; and

a second fixed optical path between the light source and the detector, said second path being configured so that the probe beam is directed to the sample along a second impinging direction, substantially perpendicular to the first impinging direction.

22. (original) An ellipsometer as recited in claim 21, further including an optical element for directing the probe beam down said first and second paths.

23. (original) An ellipsometer as recited in claim 22, wherein said optical element is a movable mirror for selectively directing the probe beam down said first and second paths.

24. (original) An ellipsometer as recited in claim 23, further including a movable mirror for selectively directing the beam to the detector after passing through the first and second paths.